

Elliott Bay/Duwamish Restoration Program

Summary of stakeholder interviews

Prepared for the
Elliott Bay/Duwamish Restoration Program Panel
by the
Municipality of Metropolitan Seattle

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1. Introduction

The Elliott Bay/Duwamish Restoration Program is responsible for planning, designing and implementing sediment remediation, habitat development and source control projects in Elliott Bay and the Duwamish River over a six-year period, which began in 1992. The program was set up by a consent decree that settled a 1990 lawsuit filed by the National Oceanic and Atmospheric Administration (NOAA) against the City of Seattle and the Municipality of Metropolitan Seattle (Metro) for alleged damages to natural resources in the bay and river.

The program, which has a \$24 million, six-year budget, is managed by a panel representing federal, state, tribal and local governments. Members of the panel include NOAA, U.S. Fish and Wildlife Service, Washington State Department of Ecology, Suquamish Indian Tribe, Muckleshoot Indian Tribe, City of Seattle and Metro. Within the \$24-million budget, \$12 million is set aside for sediment remediation projects, \$10 million for habitat development projects and \$2 million for source control measures in addition to those currently being planned and implemented by the City of Seattle and Metro.

One of the panel's first actions was to ask Metro to interview individuals representing a cross section of groups within the community and to report the results to the panel. The intent of the interviews was to identify:

- issues and values of importance to the interview participants
- factors that the panel should consider in developing projects for sediment remediation, habitat development and source control
- opinions on what the panel should accomplish
- the role of public involvement and education
- any other information that might help the panel.

The panel also viewed the interview process as the first step in involving and informing the public. We hope the interviews and this report have accomplished these objectives.

Working with a list of individuals approved by the panel, three Metro staff members -- Judy Bevington, Anne Dufford and Jim Lindler -- conducted 46 interviews with 76 individuals over a period of several months in 1992. The individuals represented 34 organizations, with three 3 individuals representing themselves. The interviews demonstrate a lot of interest in Elliott Bay and the Duwamish River for a wide variety of reasons. For many individuals, this

interest borders on the passionate. This report attempts to convey this interest and represent the views of the participants as objectively as possible.

Many of the participants who read this report may recognize that we used their wording or phrasing of an opinion without giving credit for that wording or phrasing. We took this approach to keep the interviews as confidential as possible -- something we told participants we would do -- at the same time using the way participants expressed opinions to offer more useful insights than a paraphrasing might have. We hope participants will appreciate the balance we have tried to achieve.

Highlights of the report

Participants in the interviews discussed many issues and values that are important to them. These issues and values generally focused on four major themes that capture the highlights of the report: the panel and its work, planning and projects, public involvement and education, and use of money.

The panel and its work

Participants view the consent decree and the work of the panel as a very positive opportunity to make some substantive changes in the environment and the way the region works toward making those changes. By the end of the six-year period governed by the consent decree, the panel will likely be judged not just by the projects it has completed, but also by how well it has worked as a panel, how well it has defined a vision for Elliott Bay and the Duwamish River and how well it has set in place a structure that might carry out that vision over time.

Planning and projects

Generally, participants would like to see the panel select projects in the context of some overall plan or strategy for the future. At the same time, participants do not want to see the panel get bogged down in planning to the detriment of not getting any projects accomplished. A large number of participants do not expect Elliott Bay and the Duwamish River to be returned to a pristine state, but would like to see significant improvements that balance the needs of the environment, economics and public use.

Public involvement and education

Participants view public involvement -- both in the panel's decision process and in the implementation of selected projects -- as very important. The success of the panel's work is seen as dependent on public participation and support. Appropriate participation by citizens in projects being implemented is seen as a positive way to build support and long-term stewardship.

Just as important is education about Elliott Bay and the Duwamish River, what the panel is doing to restore areas of these two bodies of water and what individual citizens can do to become stewards of these resources. Public support for restoration activities in the bay and river and long-term, regionwide behavior/lifestyle changes reflecting habits positive to environmental recovery are seen as important goals of any education effort.

Use of money

Participants would like to see the panel use its money to the greatest benefit possible. Recognizing that the funds available to the panel are limited, participants would like to see the panel limit the amount of money it spends on planning and studies, select projects carefully based on its best judgment and find creative ways to stretch the value of the available money.

2. Issues

Participants were asked about the key issues they felt the panel should address as it plans, designs and implements projects in Elliott Bay and the Duwamish River. Participants addressed the overall work of the panel; its planning process; its use of money; its general approach to assessing potential projects; its approach to selecting specific sediment remediation, habitat development and source control projects; its interaction with other government agencies, potentially affected interests and the public; and the role of public access. Participants also raised some other issues not related to these general categories. This section provides a summary listing of the major issues by category, sometimes in the form of advice from participants.

Overall work of the panel

Aside from issues affecting sediment remediation, habitat development and source control projects specifically, participants raised the following issues as ones that the panel should address as it approaches its overall work:

- Determining goals and priorities – determine what the panel is trying to accomplish, how it sets priorities, how much information it needs and how its projects will accomplish objectives.
- Value of the panel's work over the long term -- projects with long-term benefits and sustainability are preferred.
- Balancing the needs of the environment with the needs of a working bay and river.
- Economic impacts of the panel's decisions on the region, including the fishing industry, and how those impacts are evaluated.
- Balancing what is reasonable to achieve now with what is reasonable to achieve in the future.
- Limited time available to panel -- how can the panel best use it?
- What drives decisions – science or politics?
- Addressing the role of water quality itself as a goal.
- How clean is clean?
- Role of policies and procedures in protecting and preserving the areas restored -- awareness of limitations of regulations is necessary.
- Land use and permitting.

Planning process

As to how the panel should approach its planning process, participants raised the following issues as ones the panel needs to consider:

- Should the panel develop a plan or get on with projects or work on a healthy mix of planning and projects?
- Which allows for maximum benefits: a systemwide, comprehensive approach to planning or a project-by-project approach? (Most participants favor a comprehensive approach.)
- Coordination of planning and projects with federal, state and local agencies.
- Relationship of the panel's work to basin and upland activities.
- Influence of upper watershed activities on lower watershed work -- are there opportunities?
- Relationship of the panel's work to a regional, baywide perspective.
- Integration of sediment remediation, habitat development and source control.
- Can best judgments be made on available information? (Some participants think so.)
- Source control will not be complete before implementing sediment remediation and habitat development projects -- does it need to be? (Opinions vary.)

Use of money

On the use of money, participants offered the following opinions:

- Benefits of the available funds should be maximized.
- Additional funding sources and partnerships with the public and private sectors should be developed to get the work done and increase the value of the panel's money.
- Options, such as mitigation banking and taxes as mitigation for development, need to be explored -- they could help fund future projects beyond the scope of the panel's work.
- The panel's funds could be used as seed money for future projects.
- A trust fund, in which interest could help fund future projects, could be developed.
- Administrative costs should be limited.
- The panel needs to build for something in the future beyond the scope of its work.

General approach to projects

In discussing sediment remediation, habitat development and source control, participants raised issues and voiced opinions that applied to all three areas of the panel's work:

- Sediment remediation, habitat development and source control need to be integrated and coordinated for best results for the total health of the system.
- Of sediment remediation, habitat development and source control, is one more important than the others or is a balance of all three the answer?
- Should projects address alleged pollution from City of Seattle and Metro combined sewer overflows, or should projects go beyond that scope?
- Good baseline data allows for prioritization of projects.
- Make sure scientific understanding, including knowledge of fingerling migration, is sufficient before proceeding with proposed projects.
- Select workable projects.
- Physical impacts of projects should be considered.
- Role of water quality in supporting fish runs.
- Increased productivity.
- Environmental and human health risks.
- Recreational benefits/aesthetics.
- Endangered species.
- Role of development as an opportunity for sediment remediation, habitat development and source control.

Sediment remediation

Issues and opinions specifically concerning sediment remediation included:

- Match type of remediation to type of injury.
- Make sure capping will remain in place and not affect fish.
- Link fishery enhancement and source control to remediation.
- What can we learn from remediation projects and apply elsewhere?

Habitat development

Issues and opinions specifically concerning habitat development included:

- Protect, restore and enhance habitat conditions for fish and wildlife.
- Restoration of intertidal areas.

- Select workable projects.
- Integration of habitat restoration into landscape.
- Corridor development.
- Degree of disruption of marine and estuary ecology.
- Evaluation of loss of previous habitat base.
- Will habitats be natural or artificial, or both?
- Protection before restoration?
- Restoration on an estuarywide basis, not site-specific basis.
- How processes in estuary have changed through time.
- Human use, such as aesthetics and interpretation, may be an effective goal in lieu of achieving biodiversity in an urban area.
- Effects of transportation and traffic on habitat.

Source control

Issues and opinions specifically concerning source control included:

- Since pollution is the cause of sediment and habitat problems, source control should have the highest priority over sediment remediation and habitat development.
- Effective source control is necessary before sediment remediation and habitat development.
- Don't wait for source control to be complete before implementing sediment remediation and habitat development projects.
- Impact of pollution on aquatic resources -- how do we control, what do we know and how severe is it in relation to other areas of Puget Sound?
- Investigate and eliminate sources of pollution upstream that could impact work downstream.
- Address damage to resources from sources other than combined sewer overflows and stormwater outfalls.
- Address sources of pollution -- industrial, business, shipping, drainage, nonpoint and stormwater.
- How much pollution is from historical sources, how much is reoccurring and how much is attributable to shipping activities?
- How to use the authority of regulatory agencies to control the flow of pollutants into the bay and river. What are the limitations of regulations?
- The role of best management practices for small, chronic sources of pollution.
- Set goals to reduce pollution to water bodies.
- Role of pretreatment.
- Because of scarcity of funds for source control, great care is needed in the allocation of the funds.

Interaction with other government agencies, potentially affected interests and the public

Participants offered the following opinions on issues concerning interaction with other government agencies, potentially affected interests and the public:

- Need cooperation of all parties, including the public.
- Important to bring all players into the process of project screening and project approval early to avoid problems and delays later.
- Look for opportunities with other governments and private concerns.
- Recognize tribal interests and treaty rights.
- How should potentially responsible parties be involved in the panel's work -- through lawsuits or participation in projects?
- Look at impacts of decisions on persons of color.
- Need public involvement in decisions and public acceptance of decisions.
- Need to cultivate public trust.
- Develop stewardship for the bay and river.
- Use information from public involvement work done by other groups, such as the U.S. Environmental Protection Agency's *Puget Sound Management Plan*.
- Incorporate public education as an element of restoration projects.
- Educate the public about each person's role in preventing pollution.
- Target children for education.

Role of public access

Issues and opinions concerning the role of public access to projects included:

- Land acquisition for public access.
- Public access and use are worthwhile goals for projects when they do not impact the projects.
- Public access has limitations because of safety on a working river.
- Focus on projects that can be used by people, particularly children.
- Public access enhances public education.
- Public access should not impact business activity.

Other issues

Participants raised several additional issues for the panel to consider as it plans projects:

- Water reuse may have a role in sediment remediation, habitat development and source control.
- Develop a data base of what works and what doesn't work to enhance further research and education.
- Fully investigate existing technology.
- Preserve and mitigate wetlands to avoid their loss.

3. Values

While there is much agreement among the different groupings of participants on the basic values the panel should use in making decisions -- environmental protection and restoration, cost-effectiveness, and public involvement -- how that is expressed by the different groups provides deeper insights into the spectrum of values the panel must consider as it approaches its work. A glimpse into the range of values for each group -- the panel, regulatory/resource agencies, elected officials, technical/academic individuals, environmental groups and business/community leaders -- is provided below.

The panel

The panel holds strong values for environmental protection and stewardship, most often expressed in terms of protecting and preserving existing resources and habitats and restoring the health and viability of marine animals injured by contamination. Generally, the panel prefers a long-term, holistic approach rather than a short-term approach to improving resources and managing them, also preferring a commitment to long-term maintenance and sustainability of projects implemented by the panel. Building a foundation of projects that will form the basis for future efforts is also important to the panel. Many panel members feel a responsibility to protect and enhance fisheries for Native Americans and believe it's important that source control be taken care of before habitat restoration and sediment remediation.

How the panel works together, how it spends the money available to it and how it communicates with the public are other strong values held by the panel. Some panel members feel strongly that the panel should function as a partnership, working cooperatively beyond individual interests to address the broader picture of environmental stewardship. Cost-effectiveness is a strong value, expressed primarily in the sense of getting the maximum return for the dollars spent, including the leveraging of funds from other sources to produce greater results. Some panel members see an important need to involve the public early in the process so the public knows what the panel is doing and can be encouraged to become stewards and so the panel can benefit the most from the public's points of view. In this context, one panel member feels the panel should be careful to listen to the values of user groups, which may not necessarily be the most cost-effective values or reflect those of the panel members.

Members of the panel expressed a number of other values that seem to provide a context, or perhaps a debate, for fulfilling the value of environmental protection and stewardship: Bring back a balance to the estuary; leave the estuary as natural as possible; strive for natural functioning, perhaps as a functional zoo instead of as a park, as one panel member suggested; seek a harmony between the urban and aquatic environments; be flexible and respond to needs as they arise; protect ongoing commercial values; establish environmental protection practices for the working harbor; eliminate public health risks concerning consumption; connect environmental health to the tribal goals of fish; look at the whole ecosystem, not just fish; look for the greatest long-term gain for habitat; the settlement is for fish and wildlife, not humans; in the context of fish, look at wild fish and not hatcheries; though the bay and river may not be returnable to their original condition, approach work from the pristine point of view.

Other values expressed by the panel include a desire for efficiency, creativity, accomplishing the maximum amount of work in the identified time for the panel's work, selecting good projects rather than perfect ones, selecting projects without waiting for absolute certainty that they are the right ones, seeking validity in the scientific process, upholding treaty rights and being sensitive to different cultural communities that might not have a voice.

Regulatory/resource agencies

Representatives of the regulatory/resource agencies express a range of environmental values. Generally, the agencies show a strong concern for protecting the environment and preventing pollution. A number of the agencies believe that source control should be the first priority for the panel, ahead of habitat restoration and sediment remediation. One agency suggested that the consent decree is more weighted to habitat development than to source control or sediment remediation. Another value that some agencies feel the panel should rank high in its criteria for selecting projects is the health risk to people. One agency ranks health risk as a priority ahead of the health of the ecosystem and marine animals, which it in turn ranks ahead of economic feasibility. Overall water quality is the primary value that should guide the panel, according to another agency, followed by benefits to the public. Impacts on fisheries and restoring the bay and river to a level that will support fish and other aquatic life are values expressed by some agencies. The effect of the panel's work on navigation and commerce are concerns of other agencies.

Balancing an approach among potentially conflicting needs, striving for the best return on investment and using the panel's work as a catalyst for more work later are values shared by a number of the agencies. Other values mentioned include giving equal weight to economic impacts and environmental benefits,

ranking projects with multiple benefits at the top of the list, selecting projects that will establish optimum conditions for targeted species and achieve maximum benefits, monitoring projects to determine the need for additional action, designing projects that can sustain themselves over the long term and clearly defining goals and objectives based on an integrated comprehensive plan for the bay and river.

The panel's work is seen as an opportunity for agencies at all levels to work together and to educate the public, to be as inclusive of different groups as possible without getting bogged down, and to break down barriers between groups and bring the often conflicting ends of the spectrum together. One way to do this, according to one agency, is to educate people about the importance of the urban waterway and the potential benefits of the panel's work to fish, wildlife and people. One agency expressed the need for an open and visible process that would build long-term support and ownership for panel actions and potential public actions. As long as fish and other aquatic life were given a higher priority than people in decisions about projects, some agencies see a value in developing projects with components oriented toward people and people uses. One suggestion for achieving this value is to provide increased accessibility to the bay and river.

Elected officials

The elected officials show a strong appreciation for the environment and its importance to people and the region's quality of life. Clean water is one of the important values expressed by the elected officials, with one official citing the importance of clean water for children. Correcting environmental problems and the sources of those problems is also an important value as long as doing so doesn't create other problems. In fact, the work of the panel is seen as a opportunity to look for creative solutions, some of which may solve multiple problems. One official feels that the panel needs to be reasonable about what it can do to remedy past problems and to take into consideration the mix of activities that are there now.

Gaining the most long-term value for the money spent is another strong value of the elected officials. The challenge may be in finding ways to get the most out of the dollars available, including joining with others to obtain more resources.

Individual elected officials show interest in developing public access, bringing about a change in those attitudes and lifestyles that most threaten aquatic life and people, obtaining a vital mix of plants and animals in the river and bay, and having the cleanup of the river and bay paid for by those causing the problems, perhaps through user fees.

Technical/academic individuals

The technical/academic individuals focus to a great degree on planning ahead, picking priorities and choosing projects that can provide information that can be used elsewhere. One individual voices a strong need for a regional plan for restoration projects, noting that a project-by-project approach won't do the job of maintaining resources. Another individual advises the panel to fit its work into a total scheme and be sure it knows the outcome it wants to accomplish. Since there are many things that can be done, the panel must set priorities. As a way to set priorities, the technical/academic individuals value the use of risk assessment, with a focus on clear risks to people; source control; maintenance of existing resources while looking for restoration opportunities; determination of what could be restored and would provide a net benefit over the long term; and the ability of projects to sustain themselves beyond the panel's work. Several of the individuals see a benefit in developing projects that are transferrable to other locations, either in this region or across the nation.

Weighing costs against benefits and choosing the most effective projects for the money spent are important values to the technical/academic individuals. Spending a lot of money to clean soils that lend minor benefits to marine life, for example, would not fit these values. One individual advocates putting benefits before costs in seeking real improvement and protection of resources. Another individual suggests that benefits include fisheries, recreational and aesthetic values.

Other values expressed by the technical/academic individuals include developing habitat that provides food and protection for selected species; recognizing that upstream activities can harm work completed downstream; modifying the shoreline to protect juvenile salmonids; focusing on a variety of fish species, not just salmonids; improving public access to habitats so people will care about them; providing aesthetic features; being sensible; building adaptive management and feedback loops into projects; making efforts to incorporate the historic nature of the estuary into restoration projects; and setting up conditions that will foster the return of edible fish at fishing piers.

Environmental groups

Representatives of environmental groups feel strongly about preventing pollution and reducing risks to people and the environment, restoring areas to a greatly improved state, and finding ways to involve the public.

An important value is pollution prevention and the protection of living things, including people. Generally, priorities should be based on reducing the greatest risks to human and environmental health. Protection of salmon and the fisheries resource is important, in part because of its economic contribution to the region's quality of life. Using cost-benefit analysis to help set priorities, focusing on the control of toxics, fully understanding problems before applying new technology, and developing long-term approaches to long-term problems are other related values expressed by individuals.

Restoration is another important value. One individual calls for restoration of the bay and river to, or at least close to, their original states. Another individual advises the panel to develop a bold vision, suggesting that the natural condition of the area that once existed should be the starting point for developing this vision. Other individuals value the multiple uses of the bay and river, including fishing and recreational uses such as swimming.

Involvement of the public in some way is also important to the environmental representatives. Public access and enjoyment, as long as it does not impact habitat, leads to education and better understanding of the problems facing the river and bay. The panel should promote stewardship in a sense that takes into account future uses of the area. A public process will also help the panel establish values to use in making decisions and make implementation less difficult.

Business/community leaders

Business and community leaders express a range of values that the panel should use in guiding its decisions. To varying degrees, many of these leaders acknowledge that the panel will be trying to restore areas of a working bay and river to more natural conditions and that it will be difficult to balance that goal with the economic value of the working bay and river to the region and the region's relationship to the global economy. Reasonableness and an eye to multiuses may be important to finding a balance between potentially conflicting needs. Yet, efforts to restore the natural environment, remediate problem areas and eliminate sources of pollution are very important to these leaders. In fact, eliminating sources of pollution is a higher priority for many of the leaders than are sediment remediation and habitat restoration. Unless sources of pollution are controlled, cleanup costs may be wasted, says one leader.

A major value of the business and community leaders is to ensure protection for public health and the environment. Some believe clean water should be the goal of the panel's work by getting rid of the sources of pollution, such as discharges from ships and boats, or by making it more costly for polluters to pollute. Public

health is also important, particularly as pollution affects the quality of fish, shellfish and other edible marine life. Several leaders use the phrase, "fishable/swimmable," to summarize their definition of clean water.

The business and community leaders are interested in effective, optimum use of the panel's money. Their focus is on getting the best value for the limited funds available and using the money to get people to work together. Spending excessive amounts of money to get infinitesimal results is not valued; yet, doing the job right the first time is. Part of doing the job right is making sure that there are long-term benefits to projects that can be continually upgraded or sustained over time.

Other values expressed by these leaders include public access, public education and recognition of the spiritual/cultural values held by Native Americans and other groups toward the bay and river.

4. Sediment Remediation

Factors to consider

In defining the factors that the panel should consider in scoping and selecting projects for sediment remediation, participants tended to focus on four major areas: overall planning and approach, source control, remediation methods and project selection criteria.

Overall planning and approach

Generally, many participants feel that sediment remediation projects should be selected and developed in the context of an overall plan or vision. One environmental participant went so far as to say that the panel should not bother with sediment remediation until it has an overall vision for Elliott Bay and the Duwamish River.

Suggestions for selecting and developing sediment remediation projects in the context of a plan or vision include:

- Develop a systematic, comprehensive process for identifying the most critical areas.
- Develop a system for ranking projects by priority, such as giving the highest ranking to those potential projects with the most toxic sediments.
- Prioritize restoration opportunities in the context of an overall plan and the relative significance of areas for habitat.
- Select sediment remediation methods in the context of a baywide planning effort.
- Coordinate sediment remediation projects with other similar projects and with other jurisdictions.
- Do not remediate areas that will be taken care of by other agencies or through mitigation, unless it is cooperative.
- Do not remediate areas that are, or have potential to be, Superfund sites.
- Review past work in basin planning.
- Review related studies.
- Identify research needs and explore alternative technologies.
- Adopt a team approach.

Source control

Source control is a major factor that participants feel the panel should consider in selecting and designing sediment remediation projects. The greatest concern is that if sources of pollution are not taken care of before a sediment remediation project is undertaken, then the remediation site might become recontaminated and the project will have been a wasted effort. The panel, therefore, should plan remediation work in conjunction with source control. More specifically, the panel should evaluate sediment remediation sites on the ability to control sources and prevent recontamination. This evaluation might include the proximity of the site to a source of pollution, including other contaminated sediments, and how well pollution has been or can be controlled at that source of pollution.

Remediation methods

Among those participants who raised issues about the use of capping or dredging as methods for sediment remediation, there almost appears to be a debate about which, if either, option is a suitable solution for taking care of contaminated sediments. The task before the panel will be how to resolve that debate in its approach to sediment remediation projects.

Individual comments, which covered a range of issues in this debate, include:

- Capping is unproven. It needs a track record before the panel goes too far with it.
- Disposal of dredged sediments could be a problem.
- Capping is only sensible in deep areas. Where water is shallow, extract contaminated sediments and fill with clean sediments.
- Capping projects should consider factors such as the kind of cap, thickness of the cap, sediment grain, how far to extend the cap beyond the contaminated area, and the effects of the cap on boring organisms.
- Capping may not make a difference over the long term, particularly in terms of remaining in place. Evidence of other projects is desirable.
- Capping should be a way of creating habitat. If capping is used, one should create habitat; if dredging is used, you must put it somewhere; if dredged materials are placed in nearshore areas, it should be placed in locations in the context of habitat restoration.
- When dredging, be careful not to stir up contaminants in bottom sediments.
- Develop criteria for both capping and dredging. Focus on low-energy systems for capping; use safe and sound disposal sites for dredged material.

- Is it better to dredge, cap or allow natural siltation to cover contaminated sediments?
- Stabilization and confinement are important.
- Is the contaminated sediment causing damage to water quality or just sitting there? Is it best left alone?

Project selection criteria

Factors concerning project selection criteria can be grouped in terms of contamination, cost and benefits, relationships within the ecosystem, and additional factors.

Contamination

Participants offered the panel a range of factors to consider related to sediment contamination. They include:

- Toxicity of sediments -- how dirty are they and how do you rank them?
- Amount of contamination and injury to habitat.
- Concentration on the most contaminated areas in which there exists potential for flourishing benthic communities.
- Ongoing contamination and the nature of those compounds accumulating.
- Identification of the most toxic sediments based on state standards.
- Collection of enough data to define the extent of potential remediation sites. Recognize limitations in knowledge of how to measure contamination and its effects on the marine environment.
- Compliance with sediment management standards.
- Don't assume sediments can be returned to their original condition.
- Long-term viability or likelihood of avoiding recontamination.
- Movement of waterways and manageability of contamination in a given area -- contamination from adjacent sites, effects of storm action in moving sediments, impact of contamination from the Duwamish River on Elliott Bay, tidal action and water depths, and natural resuspension caused by flooding and wind events.
- Inadequacy of ambient monitoring. Evaluate the problem before sediment remediation.
- Appropriateness of leaving contaminated sediments in place and spending dollars elsewhere.
- Avoidance of stirring sediments up and making it worse.

Costs and benefits

A large number of participants identified "cost versus benefits" as a major factor the panel needs to consider in selecting and designing sediment remediation projects. Participants defined their meaning of this factor in terms of benefits and other factors:

- Make sure a project will do some good.
- Make sure a project is done right and for the right price.
- Evaluate benefits against impacts.
- Cost-effectiveness.
- The most for the dollars spent.
- With a small budget, pick carefully and go for the highest priority.
- Concentrate on the most toxic areas that have the potential to become productive.
- Conservative approach to projects with a clear benefit to the environment.
- Improvement of water.
- Human and environmental health benefits.
- Public benefit.
- Public recreation and access.
- Public perception of money spent.

Relationships within the ecosystem

Other factors mentioned by participants have to do with the relationships of sediment remediation to the ecosystem and parts of the ecosystem, including the human habitat. Participant comments, which show a range of opinions, include:

- Tie sediment remediation to habitat development.
- Tie sediment remediation to fish habitat.
- Focus on intertidal habitat areas and shoreline.
- Efforts should not be exclusive to open water habitats; areas under piers should also be considered.
- Emphasize the river area as opposed to the bay area.
- Sediment remediation projects with the highest priority should contain a targeted species.
- Evaluate sediment remediation projects in terms of true risk to the ecosystem and benefit to the ecosystem.
- Accepted criteria for remediation has to be based on biological effects.
- Select sediment remediation sites where there is the most contact with the public -- at locations such as beaches and fishing areas.

Additional factors

In addition to contamination, costs and benefits, and relationships within the ecosystem, participants mentioned additional project selection factors for the panel to consider. These factors, sometimes in the form of opinion and advice, include:

- Size, location and depth of potential sites.
- Density of existing inhabitation.
- Locate off or near locations of combined sewer overflows and storm drains as defined by the consent decree.
- Maintenance requirements.
- Monitoring as part of the project.
- Effect on juvenile salmon and tribal fishing.
- Treaty rights.
- Economic issues.
- Expand program through other funds.
- Responsible parties should be held financially responsible for contamination.
- Public should benefit if industry benefits.
- Analyze time it takes to do projects.
- Reasonableness – avoid pie in the sky goals.
- Practicability.

Projects

The following is a list of projects that participants mentioned when asked about the kinds of sediment remediation plans/projects they knew about for Elliott Bay and the Duwamish River:

- Pier 28
- Piers 35/36, a Coast Guard project
- Pier 53 capping project
- Pier 65 and 66 plans for marina
- Piers 90 and 91
- Denny Way sediment capping project adjacent to Myrtle Edwards Park
- Elliott Bay Marina mitigation
- Terminal 3, a Port of Seattle project
- Terminal 5 (Lockheed site), a Port of Seattle project
- Terminal 105, a Port of Seattle project
- Coastal America projects
- Army Corps of Engineers projects
- Harbor Island, a Superfund site

- Wycoff, West Seattle, a Superfund site
- Ashgrove Cement West, a proposed dredging site
- PSDDA dredge disposal
- Dredging slips in the middle reach of the Duwamish River.

Relationship to other projects

Participants were asked how the panel should take advantage of sediment remediation projects that other groups have proposed or are already implementing. They were also asked how the panel should react to unexpected opportunities that come along, particularly those with a short turnaround.

Most participants feel the panel should:

- Develop a plan and selection criteria that will be used as the basis for evaluating participation in projects that are proposed or already being implemented.
- Take advantage of opportunities that satisfy the plan and meet the selection criteria.
- Maintain open communications between governments, businesses and the public, and stay in touch with what is going on.

In addition, many participants feel the panel should:

- Actively seek out opportunities.
- Maximize joint opportunities to the greatest extent possible.
- Use the plan to leverage more money for projects.
- Link with other funding.

Individual participants said the panel should be sure to plan for the fact that permitting takes time and careful planning, keep in mind issues relating to liability, learn from what has been done and spend money on good research, operate within the Elliott Bay Cooperative Planning Effort, and be careful not to enter into opportunities solely for the sake of having a partnership. One individual suggested that a fund be set up to finance unexpected demonstration projects.

As to how the panel should react to unexpected opportunities that come along, particularly those with a short turnaround, most participants feel the panel should:

- Establish a framework for action so that quick evaluation will lead to good judgments.
- Be flexible within an established plan of action.

A number of participants feel the panel should:

- Create a fund or set money aside that would help finance participation in unexpected opportunities.
- Make sure funding is available and a project is financially sound.

Individual participants offered additional views. One environmental participant feels it is inappropriate for government to act quickly. Another environmental participant suggested that an executive board be put in charge of the process for evaluating unexpected opportunities and that a small citizens advisory committee be set up to advise the board.

5. Habitat Development

Factors to consider

In defining the factors that the panel should consider in scoping and selecting projects for habitat development, participants tended to focus on three major areas: overall planning and approach, quantity of projects and project selection criteria.

Overall planning and approach

Generally, participants feel that habitat development projects should be selected in the context of the overall system or an overall plan. Some participants said the panel should "view the system as a whole," "take a comprehensive viewpoint of the estuary" and "develop an estuary strategy."

In developing this overall context for decisions about habitat development projects, the panel should:

- Tie habitat development projects to sediment remediation and source control efforts.
- Evaluate past work in the basin.
- Determine problems and needs.
- Prioritize areas for habitats.
- Complement existing habitats.
- Make sure habitat development does not create negative side effects.
- Promote interagency criteria.
- Set goals and keep an eye toward the future.
- Include some way of measuring success.
- Design projects so they can be phased over time.

Quantity of projects

One issue the panel will need to resolve as it selects habitat development projects will be the question of whether it is better to have a few, larger projects or many, smaller ones. A number of participants representing the panel and regulatory agencies brought up this issue, but few offered recommendations.

Among the three participants who did offer recommendations, there were differences in opinion. One participant says the panel has a unique opportunity to work on one large restoration area instead of several small ones. Another participant prefers two to three large areas of high-quality habitat rather than little pockets of habitat that might be difficult for fish to find. The other participant feels it is better to restore five areas to "mediocrity" than one to greatness, noting that natural restoration processes will occur over time.

Project selection criteria

Factors concerning project selection criteria can be grouped in terms of habitat function, costs and benefits, public access and education, and additional factors.

Habitat function

The function of habitat development projects was the factor most discussed by participants. Participants offered a variety of criteria and related issues for the panel to consider in selecting and developing habitat projects. They also offered numerous opinions and advice about how the panel should make decisions based on the habitat function. Resolving differences in opinion about criteria and priorities will be a challenge for the panel as it selects and develops habitat projects.

Criteria and issues that participants believe the panel should consider include:

- Protection of existing habitat.
- Most threatened or damaged habitat.
- Proper habitat for injured species.
- Prioritization of targeted species.
- Diversity in species and types of habitat.
- Ecological diversity.
- Relationships among the species -- compatibility.
- Restoration of benthic food sources.
- Shoreline restoration as well as restoration of benthic communities.
- Habitat and estuary improvements for fish.
- Intertidal estuary feeding areas.
- Effects on juvenile salmon.
- Effects on tribal fishing.
- Potential fisheries.
- Development of a habitat corridor along the river.
- Buffer zones in the context of a habitat corridor.

- Artificial habitats versus re-created habitats versus natural habitats -- which is better?
- Protecting current fish and benthic communities versus creating new land-side habitat.
- Multiple use within a habitat -- as many functions as possible.
- Evaluation of location relative to availability of resources.
- Meeting resource needs.
- Relationship to other resource management activities.
- Evaluation of upstream impacts that could negate results.
- Long-term viability with minimal maintenance.
- Review of earlier studies, including work by Curtis Tanner, U.S. Fish and Wildlife Service.

Opinions and advice from individual participants included the following comments, which are sometimes in conflict with one another:

- Consider more species than salmon. Establish a viable biological system with the entire food chain present and healthy. An integrated ecosystem will benefit salmon.
- Preservation of salmon will preserve other wildlife.
- Use leverage to protect habitat at the headwaters.
- Protect fish passage in the lower Duwamish.
- Concentrate more efforts in the Duwamish area rather than in and around Elliott Bay.
- The Duwamish River and Elliott Bay are equally important.
- The West Seattle shoreline is important.
- Look toward natural restoration as opposed to fish hatcheries and net pens.
- In site-specific restoration projects, manipulate the existing system to the highest degree.
- Restore habitat resources that are considered rare when compared to historic levels.
- Prioritize the range of habitats and animal life on the basis of which ones are most endangered.
- Look at the area as it is now and investigate how it can be improved, keeping in mind size and location and how these factors will influence the degree of success.
- Focus habitat development on passive open space.
- Review which habitat areas will be addressed in the next five to 10 years, and select those projects that will not be addressed during that time.

Costs and benefits

Cost-effectiveness and maximizing the use of funds available to the panel are important "costs and benefits" issues to participants.

Numerous participants used the term "cost-effectiveness" to describe their interest in weighing costs and benefits. Other related cost-effectiveness comments included:

- Examine the impacts versus the benefits.
- Get the "biggest bang for the buck."
- Use cost-effective technologies.

Participant comments about maximizing the use of funds available to the panel can be summarized as follows:

- Maximize the funds by combining them with other public and private funds.
- Leverage other funding sources to match projects.
- Get others to pay for some of the habitat development projects as commercial development occurs.
- Set up a fund to finance habitat development projects.
- Encourage others to spin off with projects as a result of panel's work.

Public access and education

Generally, participants feel that the panel should select projects that will provide visible public benefits. Those projects that provide visible public benefits offer valuable opportunities to educate and gain public support for more projects -- benefits considered by some to be of equal importance to habitat development itself. One elected official, in fact, sees public access as more important than habitat development.

Comments on how to provide visible public benefits included:

- Seek compatibility of habitat development, commercial development and public access. Access is very important as an opportunity for education, but habitats may need protection.
- Give priority to nearshore land for public use.
- Locate habitat development where people can have access.
- Have more birds and things for us to see.

Additional factors

In addition to habitat function, costs and benefits, and public access and education, participants mentioned additional project selection factors and related issues for the panel to consider. These factors and issues, sometimes in the form of opinion and advice, include:

- Contamination of habitat and the possibility of recontamination.
- Select projects away from sources of pollution, or clean up areas around projects.
- Choose projects with the greatest potential for success, recognizing that a pollution source could be a problem for many years.
- Long-term protection and viability of sites, and amount of maintenance required.
- Monitoring as part of the program.
- Ownership of property.
- Effects of sales of private land.
- Locate projects on existing public land.
- Involve appropriate people with expertise.
- Assess the state of the estuary to establish baseline data.
- Must be patient in developing a learning curve, for there is little urban restoration data available.
- Concentrate on restoration rather than creation.
- Potential for restoration.
- Maximum restoration.
- Maximize site for potential, future development.
- Adjacent land use.
- Continuity in landscape and land use.
- Historic and current public use.
- Historic and current environmental quality.
- Historic appropriateness -- was the site a habitat in the past?
- Mitigation should require more than acre for acre.
- Technologies may signal opportunities to solve other problems as well.
- Requirements of NPDES permits.
- Reasonableness.
- Air quality.
- Human and environmental risk.

Projects

The following is a list of projects that participants mentioned when asked about the kinds of habitat development plans/projects they knew about for Elliott Bay and the Duwamish River:

- Coastal America sites
- Terminal 3 (Lockheed site), a Port of Seattle project
- Terminal 105, a Port of Seattle site
- Terminal 107, west of Kellogg Island
- Kellogg Island
- Pier 91
- Shoreline Parks Improvement Fund
- Boeing projects, including Duwamish Corridor Development Project
- Elliott Bay Marina
- Lafayette Creek
- Longfellow Creek watershed plan
- Upstream fishery development
- King County Surface Water Management basin planning/projects
- Washington State Department of Natural Resources planning/projects
- Puget Sound Water Quality Authority plan
- Ham Creek, or South 96th Street project
- Trout Unlimited efforts
- Seattle Aquarium salmon exhibit.

Relationship to other projects

Participants were asked how the panel should take advantage of habitat development projects that other groups have proposed or are already implementing. They were also asked how the panel should react to unexpected opportunities that come along, particularly those with a short turnaround.

As with sediment remediation projects, most participants feel the panel should:

- Develop a plan and selection criteria that will be used as the basis for evaluating participation in projects that are proposed or already being implemented.
- Take advantage of opportunities that satisfy the plan and meet the selection criteria.
- Maintain open communications between governments, businesses and the public, and stay in touch with what is going on.

In addition, many participants feel the panel should:

- Actively seek out opportunities.
- Maximize joint opportunities to the greatest extent possible.
- Use the plan to leverage more money for projects.
- Link with other funding and provide funding.

A number of participants view habitat development projects as an opportunity to involve the public in projects. Individual participants suggested the panel:

- Cultivate stewardship of projects to perpetuate them.
- Look at providing neighborhood matching grants as seed money for community volunteer work.
- Set up a nonprofit group or establish a relationship with one to carry out projects or maintain projects over time.

Individual participants said the panel should be sure to plan for the fact that permitting takes time and careful planning, operate within the Elliott Bay Cooperative Planning Effort, be careful not to enter into opportunities solely for the sake of having a partnership or leveraging funds, learn from the successes and failures of projects in progress, build on other projects and give credit to others, and publicize successes. One individual suggested that a fund be set up to finance unexpected demonstration projects.

As to how the panel should react to unexpected opportunities that come along, particularly those with a short turnaround, most participants feel the panel should:

- Establish a framework for action so that quick evaluation will lead to good judgments.
- Be flexible within an established plan of action.

A number of participants feel the panel should:

- Create a fund or set money aside that would help finance participation in unexpected opportunities.
- Make sure funding is available and a project is financially sound.

Individual participants offered additional views. One environmental participant feels it is inappropriate for government to act quickly. Another environmental participant suggested that an executive board be put in charge of the process for evaluating unexpected opportunities and that a small citizens advisory committee be set up to advise the board.

6. Source Control

Factors to consider

In defining the factors that the panel should consider in scoping and selecting projects for source control, participants tended to focus on overall planning and approach, the role of education and project selection criteria.

Overall planning and approach

Though some participants used terms like "holistic" and "systemwide" to describe their preferred approach to source control planning, a large number of participants focused their approach to source control on its relationship to sediment remediation and habitat development. These participants, which represented a cross section of the different groupings of individuals interviewed, focused on two basic concepts:

- Source control should take place before sediment remediation and habitat development.
- Source control should be tied to sediment remediation and habitat development.

In fact, these two concepts were expressed more frequently by panel members than by any other grouping of individuals.

Comments by individual participants in relation to these two concepts included:

- Proximity to existing habitat and habitat restoration projects is important.
- Pollutant loading is the issue -- improvements in source control should be to satisfy the goal of improving sediments.
- Encourage the City of Seattle and Metro to do source control relative to remediation and restoration.
- Source control tied to a sediment remediation or habitat development project can turn a potentially good project into a great one.
- Identify major sources that would interfere with habitat development.
- All money from the consent decree should go into source control -- it's the biggest and most serious problem.

A few participants offered more general views. One participant recommended that agencies coordinate and build toward a plan. Another individual suggested that the panel develop an approach that combines regulation, education and capital projects.

Role of education

The importance of education to source control came up frequently as a major issue among participants representing the majority of the groupings of participants. One individual suggested that education might have a better, long-range effect than actual source control projects.

Comments by individual participants on the role of education included:

- Change people's behaviors through education.
- Focus on political obstacles because source control involves social change for people in cities.
- Pollution should be made politically unpopular and economically unattractive.
- The public needs to be educated about their contribution to pollution -- industry isn't the only polluter.
- Educate teachers and students at all levels, but also educate planners and others who deal with pollution issues.
- The best use of public funds is to provide concrete information to individuals and businesses on what they can do to prevent pollution, including nonpoint pollution.
- Form partnerships in learning and research.
- Involve citizens in monitoring.

Project selection criteria

Factors concerning project selection criteria can be grouped in terms of general factors, point sources, nonpoint sources, and costs and benefits.

General factors

Project selection criteria that participants believe the panel should consider for source control projects in general include:

- Volume of contaminants.
- Severity and location.

- Long-term effects.
- Effects on sediments.
- Effects on organisms.
- Species affected by uptake.
- Degree of impact on receiving waters.
- Concentration on cumulative rather than local sources.
- Human and environmental health risks.
- Effects to navigation projects.
- Regulation of marine traffic.
- Long-term viability.
- Monitoring before and after control efforts take place/ongoing monitoring.
- Upstream sources.
- Liability issues.
- Investigation and enforcement.

Opinions and advice from individual participants included the following comments, which are sometimes in conflict with each other:

- Handle sources of contaminants on a regional basis; otherwise, you haven't addressed the problem.
- Identify all sources of contamination.
- Set priorities on those with greatest impact.
- Set priorities on nearshore areas.
- Don't base decisions on technical standards.
- Make sure evaluation is based on health-related organisms, not just heavy metals and organics.
- Evaluate existing sediment at its surface to identify critical areas.
- Pay attention to pH contamination.
- How much can realistically be controlled, and what level above pristine background is okay?
- Don't blindly hold the attitude that we can't have combined sewer overflows and must always separate stormwater -- it's better to treat stormwater 90 percent of the time and have a combined sewer overflow than not to treat stormwater and never have a combined sewer overflow.
- Make sure current tools are working first -- permits in compliance, stormwater controls in place for industry.
- Opportunities exist in a number of areas, including development, pretreatment, unpermitted sources/discharges, nonpoint pollution and types of polluters, such as using a particular industry as a model.
- Set up partnerships in learning and research.
- Apply innovative technology/research, perhaps the most advanced.
- Consider the use of engineering controls, such as retention structures and oil and grease traps.
- Enhance existing programs.

- Coordinate with other activities, such as new projects and sewage treatment.
- Don't duplicate what has already been done.
- Be careful that small business is not inundated with inspectors from various programs, ranging from air pollution to industrial pretreatment to stormwater.
- Do not clean up an area that another agency is responsible for cleaning up.
- Do not double-count efforts -- mitigation should be independent for each project.
- Enhance effectiveness of other programs by going after violators, perhaps by litigating a high-profile case to raise awareness and increase voluntary compliance.
- Control sources of pollution before they are released, because you can't catch them afterwards.
- Look at sources currently not adequately regulated or addressed.
- Develop new rules and regulations to protect the work done.
- Fix loopholes.
- Take a manageable area of the Duwamish River where you can get good cooperation of residents and businesses, develop a source control program and monitoring system, put the program in place and measure it, and get the media involved so there will be stories. If the program is successful in measurable ways, apply it to other watersheds.

Point sources

Opinions and advice from individual participants on point source control included the following comments, which are sometimes in conflict with each other:

- The panel should give first priority to sources that are releasing contaminants to areas related to injury. In this context, volume as well as treatment of effluent should be examined.
- Go after sources and get rid of combined sewer overflows.
- Goal should be zero-discharge of sewage and treated sewage.
- Address outfalls connected to known dischargers.
- Look at adjacent outfalls and evaluate the potential for crossover degradation from effluent or sediment plumes that would adversely affect restored areas.
- If you can't fix an outfall entirely or get rid of it, then take it as far as you can.
- Retrofit existing systems.
- Consider water reuse as one method of source control.

- Can't just do something and walk away. Because businesses change and go out of business, the panel must define who is responsible for an ongoing program.
- Employ best management practices, and take interim steps when those practices aren't enough.
- Monitor point sources.
- Find out who is connected to all outfalls.
- Look for illegal sources.
- Make sure all discharges are permitted and no one is operating under an expired permit.
- Make sure there is adequate inspection and industry is held accountable for actions.

Nonpoint sources

Opinions and advice from individual participants on nonpoint source control included the following comments:

- Nonpoint sources need to be addressed.
- Nonpoint sources will be very difficult.
- Develop a monitoring system for nonpoint sources.
- What approach will the panel take to nonpoint pollution, and will it combine resources for a better result?
- Select something not covered by current nonpoint programs -- this is a unique opportunity.
- Remove pavement and traffic -- tie source control to air quality programs.
- Treat stormwater.
- Stormwater is the major source control issue, which includes stormwater discharges, NPDES permits and illegal discharges/permits.
- Could stormwater be used to create wetlands?

Costs and benefits

The issue of costs and benefits received less attention from participants in the context of source control than it received in the context of sediment remediation and habitat development. A number of participants mentioned cost-effectiveness as an important factor. Other comments included:

- Public interests should be given priority.
- Responsible people should be held responsible.
- The small amount of money for source control money has great limitations -- realize this and compensate accordingly.
- Use most of the consent decree money on source control.

Projects

The following is a list of projects that participants mentioned when asked about the kinds of source control plans/projects they knew about for Elliott Bay and the Duwamish River:

- Metro combined sewer overflow plan/projects
- Various Metro programs, including industrial waste, key manhole, hazardous waste and trouble call
- Lake Union/Denny Way source control work
- City of Seattle combined sewer overflow plan/projects
- City of Seattle stormwater plan
- South 96th Street project, a King County Surface Water Management project
- Green-Duwamish Nonpoint Action Plan
- Elliott Bay Action Team
- Department of Ecology urban nonpoint source program, including education
- program on nonpoint source pollution
- NPDES program
- Storm-drain education
- Port of Seattle programs, including tenant inspection
- Boeing redevelopment program
- Private projects, such as Ashgrove Cement and Salmon Bay Steel
- Superfund/Harbor Island
- Puget Sound Alliance's Soundkeeper program.

Relationship to other projects

Participants were asked how the panel should take advantage of source control projects that other groups have proposed or are already implementing. They were also asked how the panel should react to unexpected opportunities that come along, particularly those with a short turnaround.

As with sediment remediation and habitat development projects, most participants feel the panel should:

- Develop a plan and selection criteria that will be used as the basis for evaluating participation in projects that are proposed or already being implemented.

- Take advantage of opportunities that satisfy the plan and meet the selection criteria.
- Maintain open communications between governments, businesses and the public, and stay in touch with what is going on.

In addition, many participants feel the panel should:

- Actively seek out opportunities.
- Maximize joint opportunities to the greatest extent possible.
- Use the plan to leverage more money for projects.
- Link with other funding and provide funding.

Individual participants said the panel should educate workers and management in source control practices, view permitting as a way to enhance source control revenues for projects, learn from the successes and failures of projects in progress, build on other projects and give credit to others, and publicize successes. One individual suggested creating opportunities that might encourage funding from other sources, such as funding a van that picks up hazardous materials or conducting a high-profile education campaign backed by enforcement.

As to how the panel should react to unexpected opportunities that come along, particularly those with a short turnaround, most participants feel the panel should:

- Establish a framework for action so that quick evaluation will lead to good judgments.
- Be flexible within an established plan of action.

A number of participants feel the panel should create a fund or set money aside that would help finance participation in unexpected opportunities.

Individual participants offered additional views. One environmental participant feels it is inappropriate for government to act quickly. Another environmental participant suggested that an executive board be put in charge of the process for evaluating unexpected opportunities and that a small citizens advisory committee be set up to advise the board. One individual noted that the small amount of money for source control may preclude taking advantage of unexpected opportunities. Another individual suggested that being aware of the political environment may lead to unexpected opportunities, such as the use of recycled water in drought years.

7. Advice

Short-term and long-term outcomes

Participants were asked about their vision -- both short-term and long-term -- for Elliott Bay and the Duwamish River. While there is some overlap between the responses for short-term and long-term visions, there are also many differences, primarily because the question about short-term vision was presented in the context of the panel's work, which is a six-year program, and questions about long-term vision were presented in a context independent of the panel's work and its six-year program.

Short-term outcome

The short-term vision question asked participants to describe what they wanted the panel to achieve in the six years of the project. Generally, participants want to see some projects completed, or at least well under way, during the six-year period of the panel's work. But, they also wanted to see more come out of the panel's work than just projects -- the panel's work should be a catalyst for long-term change.

Planning and future change

Participants want to see some efforts toward planning and actions for the future, in the sense of :

- Some long-term management and restoration planning coming out of the panel's work, providing a momentum and plan for continued progress after the panel's six-year work is completed.
- The panel's work serving as a catalyst for environmental change and a larger vision, and becoming a national model.
- The panel itself serving as a nucleus/catalyst for long-term efforts in improving and protecting water quality, expanding to include other interested parties.
- Improved intergovernmental cooperation.

Project results

Participants have a variety of views concerning the project results they would like to see. These views can be summarized as:

- Clean waters and shorelines.
- More habitat diversity and use.
- Healthy environment for fish, particularly at the mouth of the Duwamish.
- Positive demonstration of sediment remediation and habitat development that have real resource benefits and enhancements.
- Source control in place where there is cleanup, and improvements in source control generally, particularly with combined sewer overflows, outfalls and storm drains.
- Addressing what caused pollution.
- Real projects that meet a rigorous test for selection and implementation.
- Projects that improve understanding of the importance of water.
- More public access.
- Acquisition of land for future restoration and remediation projects.
- Monitoring and maintenance in place and ongoing, with an evaluation of why projects worked or didn't work.

A few individuals feel the results of projects should be fishable, swimmable waters.

Public commitment

Participants want to see a stronger public commitment to the environment and environmental restoration come out of the panel's work, in the sense of:

- People being educated, feeling ownership and being excited about what is being done.
- People being involved and understanding their contribution to the problem and the solution.
- A feeling of individual, community and government responsibility for the health of the waters.
- A recognition that environmental cleanup does not have to be damaging to the economy.

Use of money and resources

Participants want to see funds used in the most beneficial way and would like to see the funds maximized through coordination and the use of joint resources. Some participants suggest setting up some kind of a fund for future projects.

Long-term vision

Participants were asked about their vision for Elliott Bay and the Duwamish River, once in a general way and once in terms of the next 20 years. For many participants, their general vision was, as might be expected, more general than their vision for a 20-year time frame. The highlights of both responses are listed here:

Overall environment

- Long-term system recovery/healthy, sustainable ecosystem.
- A fishery for all kids to go to.
- To be able to eat fish caught in the bay and river.
- Eventual restoration of shellfish and salmon runs.
- Increased species and habitat diversity and abundance.
- Increased usable habitat for wildlife and the public.
- Increased opportunities for recreation, fishing and birding.
- Sediment remediation and habitat restoration projects that successfully complement each other.
- Major hot spots in the bay remediated and restored, or allowed to improve naturally.
- Efforts of the panel to create a foundation for further habitat restoration and sediment remediation projects.
- Ripple effect from the panel's work in restoring the area.
- Comprehensive resource management throughout the area.
- A mechanism for regional cooperation and information-sharing.
- Puget Sound Water Quality Authority plan fully implemented.
- Planning for ongoing protection, and a good monitoring program.
- Pollution prevention as standard operating procedure.
- Elimination or near-elimination of both point and nonpoint pollution.
- Secondary treatment, perhaps tertiary treatment, for all sources of pollution.
- A transportation system that minimizes street runoff.
- A link between air and water quality.
- New technologies that facilitate clean water.
- Measurably cleaner and healthier in spite of growth.

- Future development while maintaining and improving the restoration process.
- Maintenance of good navigation and commerce conditions.
- Environment, industry and recreation coexisting and flourishing.
- Port areas in better shape than when development began.
- Duwamish Waterway improvement district.
- Coexistence of a working port and aquatic resource, not a return to pristine conditions.
- Balance of environmental and economic base.
- People moving back into these areas.
- Elliott Bay and the Duwamish River as a source of pride in the way Lake Washington is.
- A model for other cities of the world.

Public stewardship

- Maximum educational program.
- Changes in attitudes/habits that prevent pollution.
- Increased public awareness of Puget Sound as a functioning estuary.
- Involvement/active support of polluters and landowners.
- Improvement in environmental curriculum in public schools.
- Community understanding that environmental protection protects human values and health.
- Maximum access to the public – visually and physically – to improve a sense of value and understanding.
- Recreation trail from Green River to Elliott Bay.
- An environmental teaching park through which citizens become aware of their impact on environmental conditions.

Additional information for the panel

Participants were asked what additional criteria or information the panel should consider as it evaluates projects. The following is a list of that criteria or information, sometimes in the form of advice:

- Look at factors affecting the river 50 years ahead and plan with this in mind, particularly as to whether projects have staying power.
- Translate the estuarine habitat protocol and in-water sediment criteria to this effort.
- Conduct a system inventory.
- Upper watershed planning under way.
- Inventory public works projects along the river for possible involvement.

- Growth Management Act -- the relationship of the panel's work to densities and development.
- State and federal sediment regulations.
- City of Seattle land-use policies.
- Look at available technical reports and all literature available on the waterways to avoid duplication.
- Metro water-column data and other historical data.
- Port of Seattle environmental guidelines for implementing the Container Terminal Development Plan.
- Expansion plans at the wastewater treatment plant in Renton and its impact on Elliott Bay.
- Awareness of underwater resources, such as historical sunken vessels, Denny Regrade disposal sites and submerged land.
- Look at large-scale restoration projects in other parts of the country.
- Recent research from NOAA's Environmental Conservation Lab on Toxicants and Salmon on toxic effects to fish.
- Effects of diesel spills and bilge-washing.
- Commencement Bay data.
- Low-cost, high-habitat-value projects in the Green River Action Plan.
- Transferability of lessons from potential projects.
- Careful thought in terms of schedule, budget, evaluation, accountability and staff qualifications.
- Keep in mind what people are willing to pay before they resist paying.
- Importance to elected officials that there be some visibility to the public so citizens can develop a sense of ownership and feel the panel's work has been worthwhile.

Obstacles facing the panel

Participants were asked if there are any obstacles that might keep the panel from successfully implementing projects in Elliott Bay and the Duwamish River. One of the major potential obstacles facing the panel is the panel itself, according to many participants. Comments about the ways the panel might become an obstacle to itself include:

- Attitudes of panel members toward each other.
- Lack of trust, cooperation and/or consensus among panel members.
- Differences in the goals of the different panel members.
- Panel members' imperatives for their own projects.
- Ability to work as a group and put aside differences.
- How the panel structures itself.
- Insufficient backing of panel members by their respective governments.
- Bureaucratic approach -- lacking a product orientation.

- Lack of a clear plan, common goal and expected outcome.
- Not being able to stick to goals and keep an eye on the agenda.
- Getting stopped by lack of definitive information.
- Needing to know everything before acting rather than working with uncertainty.
- Deciding where to start/feeling overwhelmed.
- Need for planning at the expense of doing.
- Inability to act decisively to an unexpected opportunity.
- Lack of willingness to take risks.
- Lack of commitment.
- Permitting/scheduling difficulties.
- Washington, D.C., pressures that restrict the panel.
- A complicated panel dealing with complicated regulations.

Other potential major obstacles identified by at least two participants, beginning with the most frequently mentioned obstacle, include:

- Cost and money -- more specifically, the lack of money, a reluctance to spend the money, a lack of leadership to get money, running out of money and not being realistic about money.
- Politics, including the lack of political will.
- Time.
- Lack of public support and understanding of the process.
- Lack of cooperation, coordination, consensus and compromise.
- Property owners, including public agencies that own land -- more specifically, restrictions on property and the lack of available sites.
- Conflict between cleanup needs and economic needs.
- Limitations of source control -- the possibility of recontamination.
- Special interest groups.
- Tribal interests.
- Bureaucracy.
- Narrow construction of the consent decree.
- Hidden agendas.
- Private business.
- Leaving significant parties out.
- Regulatory issues.

Potential obstacles mentioned by individual participants, in no particular order or importance, include:

- Disposal of contaminated sediment.
- Transport of contaminants from uncontrolled areas to controlled areas.
- Lack of agreed-upon disposal site for contaminated sediments.
- Experimental nature of restoration techniques.
- Resentment on the part of Metro and the City of Seattle.

- Unrealistic expectations.
- Attitude of regulatory agencies.
- Changing regulations.
- Too much or too little regulation.
- New sediment standards.
- Doing too many ineffectual projects that don't add up to much.
- Differences between management expertise and technical expertise.
- Attitude that these natural resources are expendable.
- What it takes to get a project completed.
- Unrealistic standard for restoration.
- Lack of scientific information.
- Lack of evaluation to justify projects.
- Identification of dredging versus capping areas.
- Not seeing that a regional group needs to live beyond the six-year consent decree.
- Environmental review process.
- Permitting delays.
- Acquisition of private lands.
- Human nature.
- Personalities.
- Parochialism.
- Cost of stormwater treatment.
- Getting bogged down.
- Lack of common sense.
- Projects causing problems.
- Lack of good staff support on science and social science.
- Trying to accommodate too many interests.
- News media.
- Inertia.

Public education/involvement

Participants were asked what they see as the role of public education and involvement in the panel's work, whether it is appropriate for citizens to do some of the projects and what groups or individuals should be included in the planning, design and implementation of projects.

Role of public education/involvement

Participants generally agree that the public needs to be involved in the panel's work and that education on what the panel is doing and what citizens can do to help is important to the success of the panel's work.

Involvement

Individual participants made the following general types of comments about involving the public in the panel's work:

- Involve the public in defining problems and solutions and in setting a vision.
- Give the public some visible participation in the decision process.
- Share criteria with the public so they can decide if the criteria reflect their values.
- Involve the public in the selection of projects.
- The public has a right to influence the process. Not only do people need to be informed and to understand this project, they need to be involved. Involvement promotes public acceptance and avoids problems later.
- Involve the public early on, and keep them involved throughout the process. Let them know exactly how they can get involved. After all, the public is quite savvy about these issues, and in the long run, it's their money paying for the effort.
- Inform the public of where the dollars are going.
- Maximize involvement to build commitment to the program and a constituency for long-term protection of resources.
- Industry should get involved and share the burden. Give them the opportunity to give back to community, and they will. It's good public relations.
- Gain property owner acceptance.
- Involve the news media.

Aside from these general comments about public involvement, some participants made more specific comments. Several participants recommended that the panel create some form of advisory group of citizens to provide feedback and help educate the public. One participant said that treaty rights, which along with fish protection are major drivers of the consent decree, preclude all other public rights. Another participant recommended matching public involvement appropriately to the type of project. For example, more public involvement may be appropriate for habitat development, but less public involvement may be appropriate for sediment remediation. One participant recommended listening to the opinions of various citizen groups equally, advising against giving more weight to the opinions of one group over another. While it is important to educate the public early on about the panel's work, one participant cautioned against overdoing the public process, suggesting that you involve the public and tell the public when you will report back to it. Another participant asked that the panel provide adequate public notice of decisions concerning contracts with vendors so that conflicts of interest could be avoided.

In summary, one environmental participant said, "This interview process is a good step. It makes people feel involved, and they will be less likely to slap your hand later. Furthermore, the panel will benefit from the wealth of ideas."

Public education

Specifically about public education efforts, participants made the following comments:

- Educate people about the problem, their role in the problem and the need to pay for solutions.
- Seek meaningful, widespread involvement and a behavior change in source control.
- Educate businesses, particularly commercial dischargers, about pollution prevention and why a healthy system is important to their livelihood.
- Educate people about successes in the bay and river so they can develop pride in those waterways.
- Educate the public about what the panel is doing and why -- about the value of habitats, for example, and what they can expect to get out of them.
- Tie in with the Seattle Aquarium and other educational organizations.
- Work with the schools.
- Use television as an educational tool.
- Place signs at public access areas to describe what is being done and the benefits of what is being done.
- One outcome of the panel's work should be educational.
- Use the panel's work as a workshop for training students in environmental education.

Citizen involvement in projects

Generally, participants believe that the panel should look for ways to involve citizens directly in the implementation of projects, provided that it is beneficial to the project and cost-effective to do so. To most participants, the benefits of involving citizens directly in projects were obvious -- education, ownership and stewardship -- but participants generally differed over the degree to which citizens should be involved. Comments by individual participants showing some of this disagreement on how to involve citizens in projects include:

- It's appropriate for citizens to do projects if they are held to the same goals, objectives, criteria and evaluation as the panel. They need to be guided by those with knowledge.

- Involve citizens in nontechnical portions of projects and in cleanup and maintenance efforts, but restoration projects need to be done by resource agencies and technical consultants.
- Enlist volunteer groups and provide them with resources, expert guidance and structure so they get the big picture.
- Involve citizens, provided they have expertise and there are no liabilities.
- Involve citizens from the beginning and not just for their labor.
- Doing a project and monitoring it.
- Monitoring and maintaining habitat restoration sites, and a system developed to train the volunteers.
- Physical projects, such as planting grasses.
- Helping in sample collection.
- Get teachers involved.
- Students could do special assignments, and schools could visit interpretive, habitat sites.
- Involve scuba divers in projects that they will enjoy and take ownership of.
- Give grants to citizens groups, or provide funds to educational organizations such as the Seattle Aquarium.
- To gain credibility, fund citizen projects.
- Create a matching fund for habitat restoration projects so that, for example, the panel buys plants and citizen volunteers plant them and tend them. The panel gets more for its money, and the community develops positive attitudes toward resource changes.
- Enable the public to do some public education.

Citizens/groups to involve

Most participants recommended key groups or individuals for the panel to include in its planning efforts. The recommendations covered many of the groups interviewed for this report and added additional groups. The complete list of groups included:

- Regulatory agencies/local governments/small cities
- Community councils/community and ethnic groups
- Citizens groups
- Elected officials
- Seattle Aquarium/Pacific Science Center/Woodland Park Zoo/Children's Museum
- Environmental organizations
- Academic and technical groups, including universities
- School groups, including the school districts
- Church/religious groups
- Business/industry/labor

- Recreational groups
- Service organizations
- News media
- General public.

Parting advice

Participants were asked what additional words of advice or comments they had for the panel. As with many of the questions, there were a variety of answers, but at the top of the list were the following comments:

- Think globally and develop a plan to work within, but get on with results at the same time. Balance process and products.
- Involve people -- all the players -- in an open public process that keeps them informed and involved and gains their support. When in doubt, do more public involvement than less, and make it convenient.
- Try to get more with the resources available by working with others, leveraging existing resources and being a catalyst.
- Get on with it, or as one participant said, "Just do it."
- Good luck.

Other words of advice, not in any particular order, included:

- Cooperate, be constructive and listen to one another.
- Be inclusive and collaborative, not bureaucratic.
- Keep politics out of the process.
- Be creative and decisive.
- Take risks.
- Demonstrate movement so the public sees action.
- Concentrate on small-scale projects.
- Do what you can for the biggest impact.
- Look beyond six years.
- Make sure ideals connect with the industrial nature of the area.
- Pay attention to the spirit of the consent decree, not the details.
- Set success measures first.
- Be accessible to people.
- Allow for periodic review of the panel's activities, perhaps in an open forum.
- Make sure the panel is structured to function effectively.
- Look to the Water Resources Data Management Task Force for a better, more efficient way of communicating and making decisions.
- Remember to investigate linkages between contaminated sites.
- Take advantage of knowledge and expertise.

- Benefit from national examples.
- Avoid piecemeal mitigation.
- Develop followup plans.
- Keep growth patterns in mind while planning projects.
- Set up a 10-20 year contingency and monitoring fund.
- Feel the obligation to leave things better than when you received them.
- Have fun and work hard.

8. Appendix

Participants

The following is a list of individuals and groups that participated in interviews about the Elliott Bay/Duwamish Restoration Program:

The panel

U.S. National Oceanic and Atmospheric Administration
Bruce McCain

U.S. Fish and Wildlife Service
Kate Benkert, Alisa Ralph, Joanne Stellini, Curtis Tanner

Washington State Department of Ecology
Dan Cargill, Marianne Deppman, Jane Frost

Suquamish Indian Tribe
Willy Pratt, Louis Ungaro -- tribal members
Margaret Duncan, Phyllis Meyers, Jay Zischke -- tribal staff

Muckleshoot Indian Tribe
Dave Beedle, Laura Dellaway, Rod Malcomb, Dennis Moore, Genevieve Pesarski, Isabel Tinoco, Greg Zentner -- tribal staff

City of Seattle
Bob Chandler, Kevin Clark, Virginia Hassinger, Neil Thibert, Jim Tupper --
Drainage and Wastewater Utility
Tom Tierney -- Intergovernmental Relations
Jan Mulder, Cynthia Wellner -- Department of Construction and Land Use

Municipality of Metropolitan Seattle
Elsie Hulsizer, Bob Matsuda, Pat Romberg, John Spencer, Gunars Sreibers, Bob Swartz

Regulatory/resource agencies

King County Parks, Planning and Resources Department
Craig Larsen, Lois Schwennesen

King County Surface Water Management Division
Bill Eckel

Port of Seattle
George Blomberg, Doug Hotchkiss

Puget Sound Water Quality Authority
Nancy McKay

Washington State Department of Fisheries
Kurt Fresh

Washington State Department of Natural Resources
David Jamison

Washington State Department of Wildlife
Ted Muller

U.S. Army Corps of Engineers
Pat Cagney, Tom Mueller, Alex Sumeri, Frank Urabeck

U.S. Environmental Protection Agency
John Armstrong, Keith Rose, Michael Rylko, Justine Smith, Linda Storm

Elected officials

King County Council
Bruce Laing

Port of Seattle Commission
Pat Davis

Seattle City Council
Cheryl Chow, Jane Noland

Technical/academic individuals

University of Washington Department of Fisheries
Charles Simenstad

University of Washington School of Civil Engineering
Center for Urban Water Resources Management
Richard Horner

University of Washington School of Marine Affairs
Alyn Duxbury, Mark Harshman

Environmental groups

Friends of the Duwamish
Lee Moyer

People for Puget Sound
Kathy Fletcher

Portwatch
Dianna Swain, Martin Swain

Puget Sound Alliance
Lee Dorrigan, Ken Moser, Tom Putnam

Sierra Club Legal Defense Fund
Rebecca Todd

Trout Unlimited
Bill Robinson

Washington Environmental Council
Darlene Madenwald, Art Noble

Business/community leaders

Boeing Company
Kris Hendrickson/Jeff Zahir

Individuals
Bonnie Orme, Estelle Shirey, Jim Waldo

League of Women Voters
Lucy Steers

Seattle Aquarium Society
Wes Uhlman

Trade Development Alliance
Bill Stafford

Elliott Bay/Duwamish Restoration Program

Discussion guide for interviews

May 1992

Names _____
Organization _____
Date of interview _____
Interviewer _____

Goals of interviews

- To gather background information to help guide development of an effective public involvement plan for the Elliott Bay/Duwamish Restoration Program.
- To obtain a snapshot picture of what the panel and other stakeholders think the Elliott Bay/Duwamish Restoration Program should accomplish.

What the Elliott Bay/Duwamish Restoration Program is

An intergovernmental panel is overseeing a six-year program that will plan, design and implement sediment remediation, habitat development and source control projects in Elliott Bay and the lower Duwamish River. The program is based on a \$24-million settlement reached last year between the U.S. National Oceanic and Atmospheric Administration, U.S. Department of the Interior, Washington State Department of Ecology, Suquamish Indian Tribe, Muckleshoot Indian Tribe, City of Seattle and Metro concerning alleged damages to natural resources in Elliott Bay and the Duwamish River.

Introduction to questions

I'm now going to ask you some questions about the following topics. First, I'll ask some general questions about issues, values and vision. Then, I'll ask you some specific questions about sediment remediation, habitat development and source control, such as factors that should be considered, projects you may be aware of and how the panel should take advantage of opportunities. Finally, I will ask some questions about what you think this program should accomplish in the short- and long-term, obstacles the panel may face in getting work done, and involvement of the public, your group and other groups.

Your answers will be kept confidential. They will be used to prepare a summary of interviews with about 45 other individuals or groups.

General Questions

1. What interests you about pollution issues in Elliott Bay and the Duwamish River?
2. What key issues should the panel address as it plans, designs and implements projects in Elliott Bay and the Duwamish River?
3. What values should the panel use to guide it in decisions about projects? How would you rank these values in priority?
4. What vision do you have for the improvement of Elliott Bay and the Duwamish River?

Sediment Remediation

5. What factors should the panel consider in scoping and selecting projects for sediment remediation?
6. What kinds of sediment remediation plans/projects does your group have or know of for Elliott Bay and the Duwamish River?

7. How should the panel take advantage of projects that other groups have proposed or are already implementing?

8. How should the panel react to unexpected opportunities that come along, particularly those with a short turnaround?

Habitat Development

9. What factors should the panel consider in scoping and selecting projects for habitat development?

10. What kinds of habitat development plans/projects does your group have or know of for Elliott Bay and the Duwamish River?

11. How should the panel take advantage of projects that other groups have proposed or are already implementing?

12. How should the panel react to unexpected opportunities that come along, particularly those with a short turnaround?

Source Control

13. What factors should the panel consider in scoping and selecting projects for source control?

14. What kinds of source control plans/projects does your group have or know of for Elliott Bay and the Duwamish River?

15. How should the panel take advantage of projects that other groups have proposed or are already implementing?

16. How should the panel react to unexpected opportunities that come along, particularly those with a short turnaround?

Concluding questions

17. Now that we've discussed specific issues/projects related to sediment remediation, habitat development and source control, do any other values or issues come to mind that you feel the panel should use to guide it in making decisions about projects in Elliott Bay and the Duwamish River?

18. Are there additional criteria or information the panel should consider as it evaluates projects?

19. What important results would you like to see the panel achieve in the six years of this program?

20. What would you like to see this region, independent of the panel's work, accomplish for Elliott Bay and the Duwamish River over the next 20 years? Can you suggest any projects for achieving this vision?

21. Are there any obstacles that might keep the panel from successfully implementing projects in Elliott Bay and the Duwamish River?

22. What do you see as the role of public education/involvement for this process? Is it appropriate for citizens to do some projects? Any suggestions?

23. What groups or individuals do you recommend the panel involve in planning, designing and implementing the projects that come out of the work of this panel?

24. How would you like you or your group to be involved in this six-year program?

25. Do you have any additional words of advice or comments for the panel?